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## PREHISTORIC ILLINOIS.

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### CERTAIN INDIAN MOUNDS TECHNICALLY CONSIDERED.

(Dr. J. F. Snyder.)

#### PART SECOND: SEPULCHRAL AND MEMORIAL MOUNDS.

Of all the artificial mounds in Illinois, made by Indians, at least 75 per cent were constructed for the final disposition of their dead. Not until they had been for some time in contact with the white people did the Indians here learn to dig graves and bury their dead beneath the surface of the ground. And after having adopted that method of inhumation they often modified it with the traditional practices of their mound-building ancestors. That tendency for adhering to primitive customs was well illustrated in the burial of Black Hawk, as late as seventy years ago. That renowned Indian warrior died on October 3, 1838, at his home near Eldon, on the Des Moines river, in Iowa, and was buried the next day by the members of his band and kinsmen. He was dressed in the uniform of a colonel in the U. S. army, with a cap on his head elaborately ornamented with feathers in Indian style. At his left side was a sword, on the right were two canes presented to him in Washington, and on his breast and about his neck, were medals and other presents, and trophies of his valor that in life he valued highly. Then, wrapped in four fine new blankets, his body was laid on a broad board which, taken to the place of burial, was placed in a slanting position, his feet in a shallow trench about fifteen inches lower than the general level of the ground, and his head raised a foot or more above it.

A forked post was planted at his head and another at his feet, each three feet in height, across which, from one to the other, a ridge pole was laid. Split puncheons fitted closely side by side, with one end resting on the ridge pole and the other on the ground on either side of the corpse, formed a strong roof over him, having its gable ends securely closed with puncheons set upright. That roof was then covered with earth to the thickness of a foot, and the whole sodded with turf to protect it from the erosive effect of rains and storms. In a circle, thirty feet in diameter, around that rustic tomb sharp-pointed pickets twelve feet high were planted and firmly retained in place by an earthen embankment three feet in depth thrown up against them on either side at the bottom.\*

Here was seen all the essential conditions of ancient mound building but slightly modified by the influence of civilization: the innovations upon ancestral custom being the clothing of the defunct warrior in the white man's military garb instead of dressed deer skins, the substitution of blankets for buffalo robes, and the ridge pole and puncheons for the cribwork of logs to protect the remains from the ravages of wild beasts. But for the swarm of white pioneers then spreading over Iowa territory, a further observance of primeval Indian customs would doubtless have occurred. The loyal followers of the dead chief would, in all probability, have manifested their homage to his memory at each recurrent annual visit to his grave by piling upon it more earth until the memorial mound thus made had attained the magnitude commensurate with his fame and distinction in life. As it was, the remnant of Black Hawk's band removed after his death to the Sac reservation on the Kansas river and never returned. Long after his grave had been rifled of its contents by white vandals, the ridge pole and roof placed over his remains decayed and fell in, forming there quite a perceptible mound; and the pickets enclosing it also rotted away, leav-

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\*Magazine of American History. New York. 1886. Vol. XV, p. 496.

ing around it the embankment that had supported them in an earthen circle similar to that surrounding the great "Ceremonial" mound at Marietta, O., which to the early settlers of that region seemed so mysterious and incomprehensible.

But, long before the days of Black Hawk; long before the coalition of the Sauks and Foxes, Illinois was visited, at a remote period in the past, by a colony of Indians who had learned the art of grave-digging and buried their dead in graves from two to four feet deep, lined all around and covered over with thin, broad, flagstones. Distinguished from all other Indians of the United States by that peculiar method of burial they are known to ethnologists and antiquarians as the Stone Grave Indians. The habitat of their parent tribe was in central Tennessee, more especially in the Cumberland valley, from whence colonies migrated in various directions. The one that came to Illinois—traced by their stone-lined graves containing, with human remains, high-grade pottery and finely chipped flint implements—crossed the Ohio river at the mouth of the Cumberland, and for a period occupied the district of Salt Springs in Gallatin county. Moving thence westward they stopped for a time near the junction of the Ohio and Mississippi rivers; then followed the range of bluffs as far up as Monroe county. There they again halted for another period, when, finally crossing the Mississippi, they settled along its western bluffs from the present site of Florissant down to St. Genevieve, in Missouri, where their further trail is lost.

In southeastern Missouri and eastern Arkansas extensive cemeteries of the aboriginies have been discovered similar in many respects to our own burying grounds of today. The graves they comprise, enclosing remains of deceased Indians with their domestic utensils, stone implements, and bone and shell ornaments, deposited there long ago, are not rock-lined, or disposed with any regard to uniform orientation; are but two or three feet deep and

superficially unmarked. In, or near, those ancient graveyards are mounds of the ordinary conical form from four to eight feet in height, containing human remains, probably of the more distinguished defunct personages of the same tribe; or it may be they were erected by later Indians who observed the mound mode of burial and knew nothing of grave-digging. No prehistoric cemeteries of that kind have thus far been found in this State, but their presence here may yet be brought to light by future investigation. Grave digging, however, was not altogether unknown to the earlier Indians of Illinois, although they very seldom had recourse to that mode of interment. And for the occasional rare exceptions to their usual custom of mound burial there cannot now be discerned any apparent reason.

The invariable manner for disposing of their dead by almost all prehistoric Indians of the Mississippi valley was, first, to place the body, securely enveloped and bound in deer and buffalo skins, on a scaffold or in the branches of trees, beyond the reach of wolves and other carnivorous animals, to remain there until decomposition and desiccation rendered it no longer alluring to birds and beasts liable to prey upon it. Then, either singly or with the dried skeletons of other deceased members of the family or gens, it was taken down and removed to the spot selected for its last resting place. That was usually an elevation of the ground, a prominent peak or ridge of the bluffs if conveniently accessible, though the flat, sandy bottoms bordering rivers and lakes were often chosen, but the high, open prairies always avoided. The surface at that place was then prepared—sometimes with a layer of sand spread over it, but more often with a bed of dry grass and bark—to receive the mummified remains, which, if of more than one individual, were placed compactly together, either at full length or doubled up, in the embryonic position, and covered with broad pieces of bark. Then clay from the bluffs or the subsoil, scraped up with mussel shells and flint implements, was brought in deer skins and

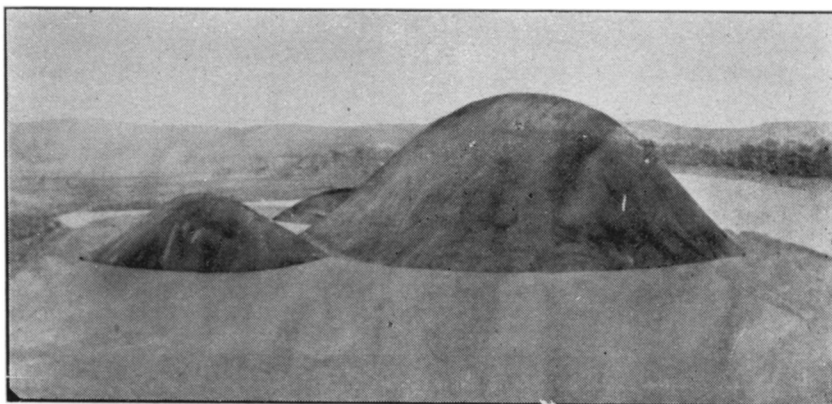


Fig. 1. Common Burial Mounds.

willow baskets, in many instances from a considerable distance, and heaped upon the grewsome pile until a mound was formed, as represented by Fig. 1, of sufficient magnitude to protect its contents from molestation. This process, as a rule, permanently concluded the burial. Occasionally, however, but rarely, the same Indians dug the mound down again from the top almost to the enclosed remains, and there placed the bodies of other kinsmen since deceased, over which they rebuilt the mound as before.

The small conical, or oblong, mounds of this type are seen on hilltops near water-courses in all parts of the country formerly inhabited by the red race. They were constructed in the same way from a remote period to sometime after the white race had secured a foothold upon this continent, as is attested by the numerous instances in which articles of European manufacture occur in them as part of their original contents. Excepting in sandy districts, or other localities where clay was entirely absent, no Indian mound of any description was ever made altogether of the surrounding surface soil. The reason for this is obvious: the mound-builders having learned by observation and experience that clay, impervious to water, would resist the erosive action of rains and frosts and afford permanent protection to the relics it covers, when mounds of sand or loam, readily permeated by water, could offer no such protection or well withstand the wearing down effects of winds and storms.

The "Memorial" or "Monumental" mounds—a classification somewhat arbitrary—primarily sepulchral in purpose, differ from the ordinary burial mounds in size and in relative arrangement of the objects they were built to enclose and preserve. They also differ from them in technique of construction, having grown so much larger by successive additions of material in course of years, while the common burial mounds were usually completed at once. This is plainly indicated in vertical sections of many of the large memorial mounds by well-marked lines of

curvilinear stratification, as shown in Fig. 2. The dark lines in the cut represent accumulations of surface soil formed by growth and decay of vegetation in long intervals of suspended labor.\* The first step in the erection of a stately tumulus of this kind was careful preparation of the chosen ground, in some instances by maintaining on it for some days a brisk fire; in other instances by spreading over it a layer of sand, clay or bark. Upon that base were deposited, either with or without the agency of fire, but doubtless with weird savage ceremonies, the bones of the dead with accompanying offerings. Their preliminary protection was generally an enclosure of heavy logs or rough stones—often both combined—over which sufficient clay was thrown to cover them. The Indians then left for their annual hunt, or upon some predatory expedition, and were gone for a season, and sometimes for several years. Returning to that locality, as they eventually did in course of time, they immediately resumed the piling of more clay upon the sepulchre, each individual contribution brought in deer skin or basketful being yet well defined as dumped down in parts of the structure.

This work was prosecuted, with more or less diligence, until the close of the season, when the Nomads sought other districts for special food supplies, or to engage in aggressive warfare, then continued it again upon their return. By periodical accretions gained in that way the monument finally attained the proportions deemed to be a worthy tribute to the fame of the warrior, or merits of the many Indians and value of the propitiatory offerings, therein interred, and was forever after regarded by all Indians who saw it as sacred and inviolable. In the progress of upbuilding the great mound it served as the

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\*Memorial mounds are found in Ohio with "mysterious stratas" an inch or two in thickness, generally of sand, sometimes of river shells or water-worn pebbles, laid in close contact, thought to have had some occult sacred or religious significance. But they, perhaps, only denoted intervals of cessation for a period in the building process, marked in that manner to protect them from molestation during the absence of the builders.



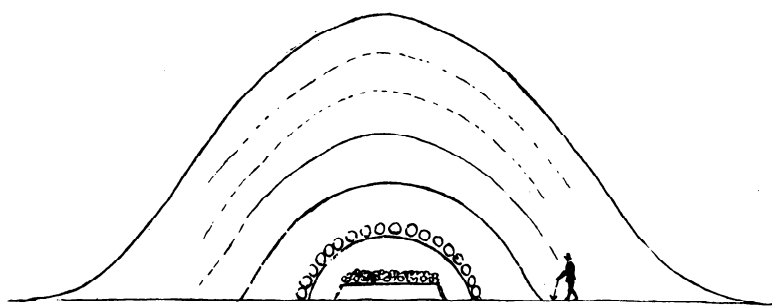


Fig. 2. Mound Structure.

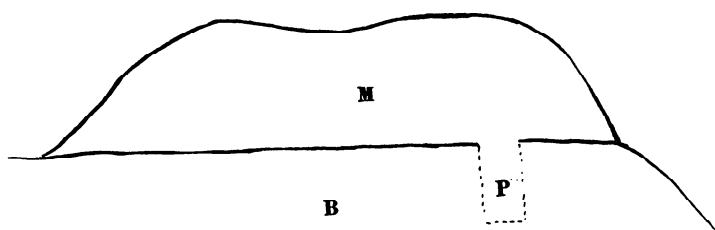
camping ground for some of the builders, as is evidenced by beds of ashes and charcoal interspersed with burnt stones, mussel shells and bones of various animals, met with at different levels all through it above the log crib work at its base. And not infrequently there is encountered near by one of those camp sites a lone human skeleton, perhaps of a clay carrier who died there and was buried where he fell.

Very few prehistoric Indian earthworks were projected and built with mathematical precision. The few describing accurate geometrical figures in their structural proportions are exceptional and accidental. The greater number of memorial mounds are oblong in form, more or less regular in outline; but the most symmetrical and conspicuous are conical with bases approximating true circles. When exploring memorial mounds the human remains and associated objects they inclose are often found near one end, or the edge, instead of under the center, the builders having lost their exact location as the process of heaping on more earth advanced. A large mound of that class, two miles west of LaGrange, in Brown county, examined by the writer a few years ago, well illustrated this erratic architecture, and also disclosed a remarkable departure from the hereditary Indian custom habitually observed in monumental mound burials. Situated at the verge of a prominent point of the bluff, irregularly oblong in shape, as seen in diagram, Fig. 3, it was 125 feet in length, 80 feet in breadth at the widest part, with an average height of 20 feet, and made altogether of bluff clay.

Excavations carried down, at different points, to the bluff surface failed to discover the objects so sacred to the Indians, or so revered by them, as to demand for their commemoration a monument comprising 13,000 cubic yards of earth. A trench was then cut through it longitudinally which revealed little more than two or three intrusive superficial burials. However, at a short distance from the eastern end a space 8 feet long by 7 feet wide in the solid

bluff surface was observed to be soft and yielding, indicating that the ground there, at some former time, had been disturbed. That fact was soon apparent when on digging at that spot the loose earth was found to be intermixed with potsherds, flint chips, bones, mussel shells, etc., and on the firm sides of the pit were plainly visible marks of the ancient flint or copper implements employed in its excavation. At the depth of five feet the broken horn of a deer was thrown out. Ten and a half feet down, a layer of large rough rocks was encountered a foot in thickness. When that mass of rocks, and all the loose earth, were carefully removed there appeared eight human skeletons, much decayed and crushed by the weight of the superincumbent stones and earth. The bottom of the pit—which was fully twelve feet in depth—was covered with two inches of dark loam, the decomposed residuum of the bed prepared for the dead, presumably of bark, skins and prairie grass.

With only one of those entombed bodies had been interred worldly possessions that resisted the gnawing tooth of time; and he, in life a large, burly man, occupied the central position on the floor, lying full length on his back. Crouched around him the other seven may have been his wives, or slaves, buried with him to attend him in the mythical future. From his extraordinary obsequies and the magnitude of his monument, it may be inferred that he was the head grand chief of the tribe and a copper magnate of distinction. Near his head was a nodular nugget of pure native copper, weighing 24 pounds; ranged along his sides were ten finely wrought copper axes; around his neck were three necklaces, one of large oblong beads made of the columella of marine shells perforated longitudinally and polished; another of over 200 incisor teeth of squirrels bored at the base; and the third composed of 283 globular copper beads, solid, perfectly spherical, as though cast in moulds and highly polished. They ranged in size from two-thirds of an inch in diameter in the mid-



**Fig. 3.** The Copper Mound.

dle of the necklace to three eighths of an inch at either end; and on his breast was a splendid ornament or insignia of authority, consisting of five plates of fluor spar, each six inches in length, two and a half inches wide, a quarter of an inch in thickness, as smooth as glass and resplendent as mirrors. In each was drilled a hole two inches from either end for cords to suspend them an inch apart, and for attachment to the clothing\*.

In the diagram, Fig. 3, the letter B designates the bluff, M the mound and P the burial pit. Some idea may be formed of the fervor of esteem or superstitious veneration entertained for the principal individual buried there, by his tribe, when considering the prodigious amount of manual labor expended in sinking that pit with only the mechanical aid of mussel shells and implements of stone and copper, and of piling up that immense quantity of earth by the primitive methods they employed. But it is difficult to detect the motive impelling them to exercise such extraordinary precaution for the safety of their chief's body and his wealth of copper by that mode of burial; for they must have known that, although Indians frequently buried their dead superficially in mounds erected by other Indians, Indian custom and superstition universally safeguarded all original mound burials from desecration or despoiling, even by the most inveterate enemies. No buried Indian was ever known to be disturbed by Indians. That this monument was not built in conventional form and immediately over the remains it was intended to commemorate, was perhaps not because the builders forgot the precise location of the burial pit, but that the point of bluff there was too narrow to afford a sufficient width of base for a regular cone-shaped mound of the magnitude required.

There is occasionally found upon examination a large memorial mound that was raised over the remains of but one individual; and in some no human remains, or other

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\*American Archæologist. Columbus, Ohio. 1898. Vol. II, pp. 22-23.

object whatever, can be discerned as the incentive for erection of the monument. In this latter class of works the motive is sometimes discovered by exhaustive exploration of the ground beneath the base of the tumulus, as in that shown by Fig. 3. It is well known, however, that mounds of great magnitude were built for other purposes than commemoration of the dead—as signal stations, elevated bases for wooden buildings, etc.—but, as a rule, the Indians were never prodigal of labor excepting when incited by fear, necessity, or superstition. The thought that they toiled at scraping up clay with mussel shells, and carrying it long distances, in deer skins, to pile it up into mounds, merely for diversion or pleasant recreation, is totally at variance with Indian nature. Every earthwork had its definite purpose, though in some instances that purpose is now not readily apparent, as numerous products of their handicraft, of daily use in their domestic economy, are to us unsolvable puzzles, because of our ignorance of many of their habits and methods of life.

Notwithstanding the identity of purpose of all memorial mounds they present much diversity, not only in size and form, but also in their internal design and structure. While they all are sepulchers no two are exactly alike, and often are, internally, so dissimilar as to warrant the conclusion that their builders were of different tribes, each having its peculiar mortuary customs, and evidently not contemporaneous. Many years ago a large mound of this class at East St. Louis was demolished, as it stood directly on the line of a new railroad then in course of construction. Over thirty-five feet in height and cone shaped, it was built throughout of bluff clay, on the sandy alluvial soil of the American Bottom, within half a mile of the Mississippi river. The hidden secrets it had so well guarded in the by-gone ages, were revealed by its sacrifice to the spirit of modern civilization, and shed a broad light upon the savage faith that prompted its building.

As the work of destruction progressed it was found that about the mound's surface several Indians of later date had been buried in shallow graves, some of whom still wore ornaments of shell and bone, together with glass beads brought to Canada by early French traders. Nothing unusual, beneath those remains, was observed in the huge mass of compact earth, as it was shoveled down, until approaching its base, when several upright cedar posts, in fair state of preservation, were encountered. More careful and complete removal of the remaining clay then laid bare the design and motives of the ancient authors of the work, plainly showing the inception and details of the impressive barbaric obsequies preceding and occasioning the erection of that majestic earthen tomb. The final disposition there of a great number of dead bodies—more probably their dried skeletons—was a modification of the community funeral practiced in 1775 by the Choctaws, as described by Bartram. He says the bones of the deceased were brought in from the field scaffolds and placed “in a curiously wrought chest or coffin, fabricated of bones and splints,” and then “deposited in the bone-house, a building erected for that purpose in every town. When this house is full, a general, solemn funeral takes place.” The coffins are then carried out “to the place of general interment, where they are placed in order, forming a pyramid, and lastly covered all over with earth, which raises a conical hill or mount.”\*

Centrally on the site of the East St. Louis mound a “bone-house” was built, twelve feet square and seven feet high. The corner posts, of cedar, were still in place; the other uprights and roof timbers, of softer wood, were reduced to dust. The side walls of the house, constructed of poles planted perpendicularly and interlaced with long slender willow sprouts, or reeds, had disappeared, leaving only here and there their impression in the adjacent dry

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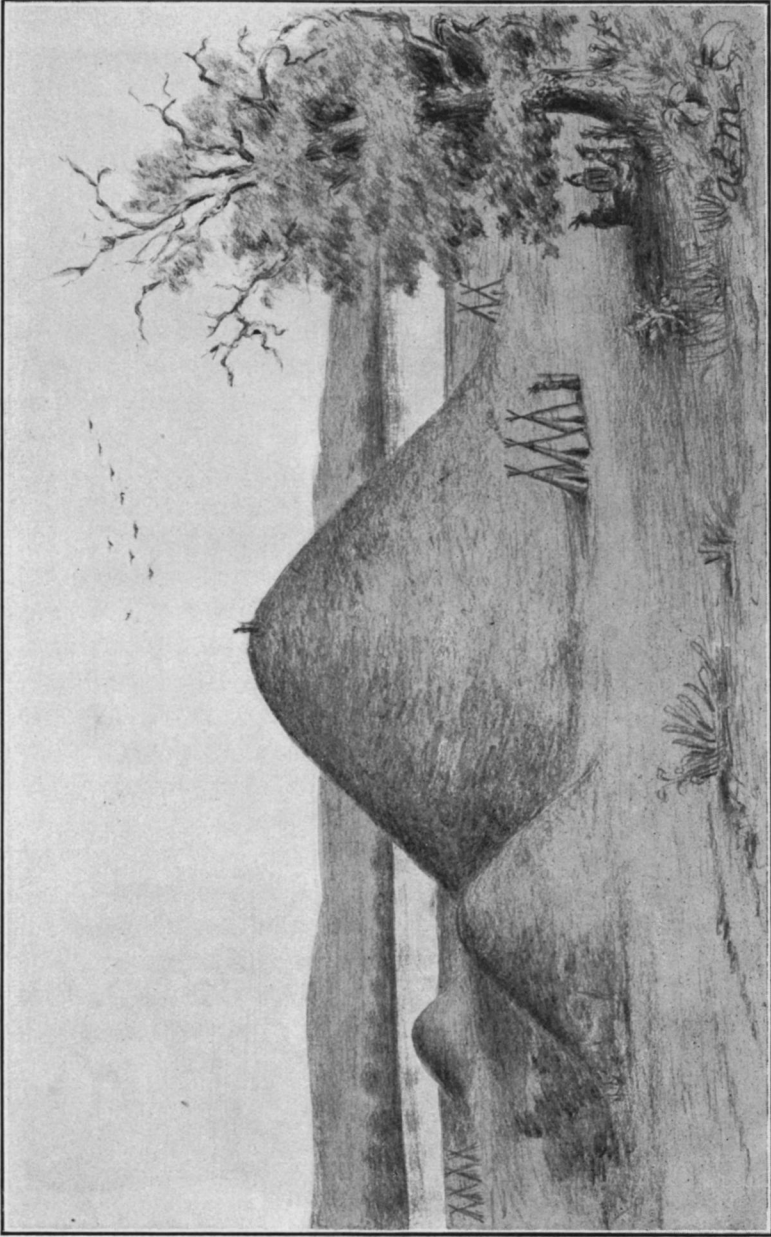
\*Travels Through North and South Carolina, Georgia, Etc. By William Bartram. London. 1792. pp. 514-515.

clay. In that charnel-house had been gathered from the scaffolds and stored the remains of all members of the tribe who died within a certain period; but if each one was encased in "a curiously-wrought chest or coffin," the corroding touch of time left not a distinguishable vestige of it. At that stage of the burial rites, when the bone-house was filled, instead of carrying the corpses out "to the place of general interment," as the Choctaws did, the Illinois Indians brought clay from the bluffs and heaped up this mound over the house and its contents where they were, and thereby "raising a conical hill or mount." When all had been cleared away, the bottom of the space bounded by the four cedar corner posts defining the area of the buried bone-house was found to be covered, to the depth of eighteen or twenty inches, with a mass of mingled human bones so far decayed—with exception of the teeth—that their separation and removal for careful inspection and preservation was utterly impracticable. From among them, however, were recovered many valuable relics of aboriginal art to enrich the private collections of Dr. John J. R. Patrick, of Belleville, and that of the writer of this paper.

During that progressive period three other mounds there of the same general character, varying in cubic dimensions and inclosed relics, were torn down and incorporated in the grading of new railroad lines, without record of their structural peculiarities having been preserved—if at all closely observed—by any one.

By far the finest and most perfect example of the prehistoric earthen monument in the Illinois river valley—a district abounding in aboriginal earth works—was situated immediately on the left bank of the Illinois river, half a mile below its ancient junction with the Sangamon; that junction having since been changed by natural causes to a point six miles farther up. As is often noticed in river bottoms, the land next to the stream is higher than that farther away from it. Such is the topography of that





.Fig. .4. The Beardstown Mounds in 1817.

mound location, which is now occupied by the city of Beardstown, in Cass county. Formerly a channel, now filled up, carried part of the waters of the united streams from the mouth of the Sangamon to the south, then westward, to where it rejoined the Illinois several miles below, converting an extensive area there—especially during the rainy seasons—into an island, elevated considerably above the line of highest overflow. From the river there a sandy alluvial plain stretches four miles in width to the eastern range of bluffs, and across the river westward a similar flat bottom, a mile wide, separates the stream from the bluffs on that side. The many advantages for savage life presented by that island; the natural beauty of its wild surroundings, and the limitless resources there of fish, game and indigenous fruits, rendered it an attractive abiding place for the Indian. From time immemorial, reaching far back into the dim ages of the past, that place was occupied by successive tribes of aborigines.

This is evidenced by the fact that for quite a distance back from the river front the sandy surface soil has been artificially raised twenty or more inches by the accumulation and admixture of ashes, charcoal, fire-stained rocks, bones of various birds, beasts and fishes, mussel shells and other refuse common about all old Indian camp sites. The vast length of time required for an addition of that depth to the original surface, to be made by that process of gradual accretion, can only be conjectured. The great mound there (Fig. 4) was another silent witness—of undoubted high antiquity—of the centuries passed since the first Indian village was pitched upon that island. The smaller adjacent mounds may have enclosed the dead of the tribe that built the large one; or, perhaps, were of more recent construction.

When the vanguard of the horde of immigrants that began pressing into the "Sangamon country" in the first years of the nineteenth century, came to that place they found a village of Kickapoo Indians, who had been there

but comparatively a short time, and who possessed not the slightest tradition of their predecessors on the island or of the mounds. The early white settlers designated the collection of buffalo and elk skin lodges there, "The Mound Village," until, in 1826, Thomas Beard established a flat-boat ferry across the Illinois river at that point, when the name of the embryo white settlement he started there was changed to Beard's Ferry; and again changed in 1829, when the town was platted and recorded as Beardstown.

There is no one now living who saw those mounds in the completeness of symmetrical proportions they had when seen by the earliest settlers of this region. They have long since totally disappeared, and are now only ideally restored, as seen in Fig. 4, from descriptions and accounts of a few of the oldest residents of the county.\* They were all conical in form; the large one fully sixty feet high, with base four hundred feet in diameter. The burial mound almost contiguous to it was fifteen feet in height, with corresponding width of base. About forty yards to the west stood an ordinary burial mound ten feet in elevation; and farther down the river was another, the smallest of the group, about eight feet high. The three smaller mounds were destroyed early in the history of Beardstown, their removal being deemed necessary for opening and properly grading the road leading down the river, and the clay of which they were made was needed for filling up sundry holes and depressions in the principal streets of the village. By 1837 Beardstown had become quite an important trading point. It was situated on a drift deposit of sand, which in summer time, when dry, was blown by the winds in stifling clouds in all directions; and at all times rendered traveling and teaming through the town slow and laborious. To remedy that

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\*The drawing of them, copied in Fig. 4, and their measurements, as above stated, were furnished by Mr. H. F. Kors, for years circuit clerk of Cass county, who was born and raised at the southern margin of the mound adjoining the large one; whose account of them is, in the main, corroborated by the few remaining citizens of Beardstown older than himself.

condition some bright genius, who had discovered that the great mound was composed of clay, suggested to the town trustees the idea of "macadamizing" the sandy streets with that material.

That expedient was at once adopted, and the criminal folly of digging down the mound—one of the grandest and most perfect specimens of its kind and the second in magnitude in the State—was commenced that year and continued for years, until the last vestige of it was hauled away to "clay" the deep sand of the streets and about two miles of the main road to the eastern bluffs. At that time Beardstown had several citizens of culture and education; but American archæology had not yet been elevated to the dignity of a distinct science, and Indian antiquities were then so commonplace that the extraordinary opportunity afforded by the mound's removal for investigation and study of the spiritual ideation and sepulchral arts of the aboriginal red race was practically unnoticed. However, from reliable sources—particularly from Mr. John Davis, a native of the county, town marshal of Beardstown for many years, and superintendent of the mound's destruction—it was learned that all over it were many superficial intrusive burials of later Indians, accompanied, as usual, with their implements and ornaments of stone, shell and bone. Among them was found the remains, evidently of a missionary priest who had long ago penetrated the wilderness thus far, and there laid down his life in exercise of his faith, and was entombed by his converts in that majestic sepulcher of their unknown predecessors. Around his skull was a thin silver band an inch in width; on his skeleton breast reposed a silver cross, and near by were the jet and silver beads of his rosary.

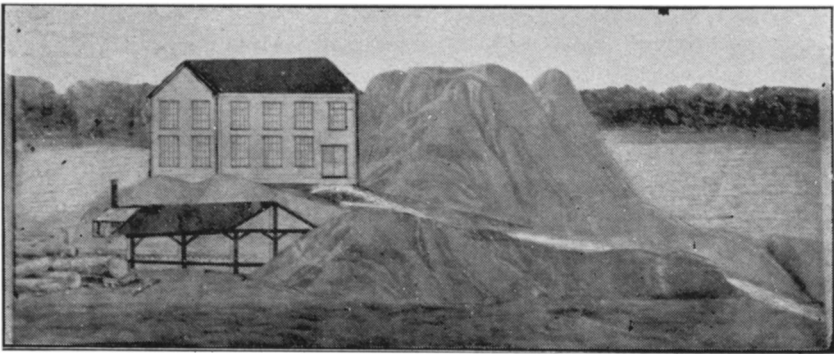
Fragments of broken pottery, flint chips and mussel shells occurred all through the homogeneous mass of clay, with here and there the ash beds, charred wood, animal bones and other debris usual about old Indian camp fires. At the base of the mound, about its center, resting on the

ground surface, the workmen uncovered a pile of large, rough flagstones, which proved to be a rude vault, six feet square and four feet high, enclosing five human skeletons, far decayed, and "a quantity of relics" buried with them; the reliquiae, doubtless, of renowned chieftains, to whose memory their tribe had reared this imposing monument.

Fig. 5 is the copy of a sketch by Mr. Kors of what was left of the mound in 1850; a section of it on the north side, next to the river, having been specially excavated for the building there of the four-story grain warehouse shown in the cut. When I first visited it, in the spring of 1865, the buildings seen in this cut had been destroyed by fire, and the mound's obliteration was complete, with the exception of remnants, from three to five feet in depth, about its margins, sufficient to define its original line of circumference. Those remnants of the mound, and much of the same material that still covered the sandy streets, were seen at a glance to be earth of a very different kind from that of the ground upon which the mounds had stood. In a vertical section of the geological formation at Beardstown, as shown by Fig. 6, the letter C denotes a limestone ledge of the lower coal measures; B, a deposit of true till, or boulder clay; DD, a stratum of fine brick clay; SS, drift, or diluvial sand, from six to fifteen feet in depth; M, the large mound; and R, bed of the Illinois river, at that point over a quarter of a mile wide. The clay composing the mounds was upland (tertiary) loess, identical in color and ingredients with the "bluff formation" constituting all the (earthen) river bluffs of Illinois as far south as glacial action extended. The brick clay (D D) at the bottom of the river, exposed at either bank in low stages of water, differs from that of the mounds in color, texture and analysis.\*

\*Quantitative Analyses. By Dr. John J. R. Patrick.

	Bluff Loess. Brick Clay.	
Coarse sand.....	0.10	0.05
Fine sand.....	13.02	15.15



**Fig. 5. The Great Beardstown Mounds in 1850.**

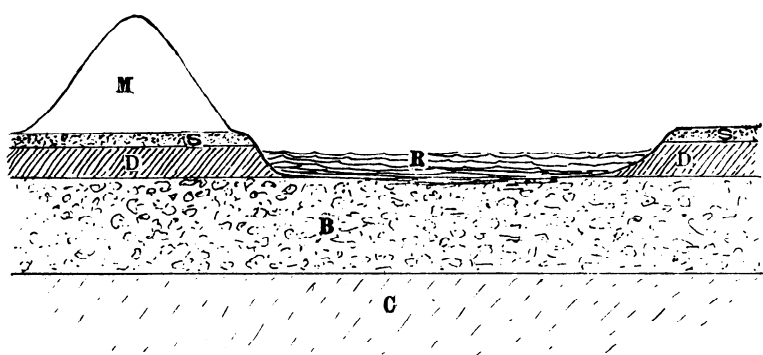


Fig. 6. Geological Section at Beardstown, Ill.

No depression of the land in the near proximity of the mounds could be discovered from whence material of their bulk could have been taken for their construction. The inference must, therefore, be held conclusive—until more exhaustive investigation refutes it—that those Beardstown mounds, located at the verge of the river bank on a base of loose sand, were built of clay, almost impervious to water, brought there for that purpose from the bluffs four miles east, or from those across the river one mile west. If this deduction is correct, a conception may be formed of the fervor and tenacity of Indian veneration for illustrious leaders—that impelled them to perform the stupendous labor of carrying over 50,000 cubic yards of earth that distance to construct a monument for the safe keeping of their remains and the perpetuation of their memory. Possibly superstition, or other consideration besides the preservative or lasting properties of drift clay, influenced them to adopt it for that purpose at the cost of such arduous toil.

The large sepulchral Indian mounds, dotting our Illinois landscape in homely grandeur, are geographically distrib-

Silt .....	41.01	28.46	
Clay .....	40.51	51.84	
Water and loss.....	5.36	4.50	
	<hr/>	<hr/>	
	100.00	100.00	
Chemical analysis of bluff loess.	Chemical analysis of brick clay.		
From the U. S. Geological Survey.	Illinois University.		
M. 38.			
SiO <sub>2</sub> .....	64.61	SiO <sub>2</sub> .....	56.74
Fe <sub>2</sub> O <sub>3</sub> .....	2.61	Fe <sub>2</sub> O <sub>3</sub> .....	2.82
TiO <sub>2</sub> .....	.40	Ca O .....	7.64
Mn O .....	.05	SO <sub>3</sub> .....	.07
Mg O.....	3.69	Na <sub>2</sub> O .....	.93
K <sub>2</sub> O .....	2.06	Water 100°.....	.21
CO <sub>2</sub> .....	6.31	Al <sub>2</sub> O <sub>3</sub> .....	10.36
C.....	.13	Mn O .....	.04
Al <sub>2</sub> O <sub>3</sub> .....	10.64	Mg O .....	4.70
Fe O.....	.51	FeS <sub>2</sub> .....	1.21
P <sub>2</sub> O <sub>5</sub> .....	.06	K <sub>2</sub> O .....	1.86
Ca O .....	5.41	Ign. loss.....	13.35
Na <sub>2</sub> O .....	1.35		<hr/>
H <sub>2</sub> O .....	2.05	Total.....	99.93
SO <sub>3</sub> .....	.11		
Total.....	<hr/> 99.99		



uted also throughout the eastern and middle portions of the Mississippi valley and the Gulf States. In this State they are seen in proximity to all the principal streams, particularly in the valleys of the Wabash, Kaskaskia and Illinois rivers and on the bottoms and bluffs of the Ohio and Mississippi, from Shawneetown and Cairo to Galena. The intrinsic evidence of great age they present on investigation suggests the probability that the custom of building this class of anamnestic monuments was in decadence, or had entirely ceased, before the invasion of America by Spanish adventurers. All artefacts associated with the human remains they contain are of distinctively native Indian type. In none of them so far examined has any article of European manufacture been discovered; but in a few have been found devices wrought of sheet copper of unquestioned Mexican or Central American origin. And in many occur profusion of sea shells, implements, ornaments and weapons made of copper, hematite, catlinite, mica and obsidian, transported from far distant regions.

They are all of essential mnemonic intent, and were the material expression of the same sentiments that have actuated civilized peoples in all countries to rear splendid granite monuments and shafts of sculptured marble over the graves of their dead. Properly interpreted, they legibly reveal many of the Indian's mythological and religious conceptions. The basin-shaped "altar" of burnt, or otherwise indurated clay, at the mound's base, filled with ashes of the funeral pyre; the charred remains of astonishing sacrifices of the finest and most beautiful articles of personal adornment, and their wealth of implements and utensils, cast in the seething fire; the thousands of artistically chipped flints\* and other rare objects fashioned by months—perhaps years—of patient labor and brought from great distances, there deposited as votive offerings

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\*Primitive Man in Ohio. Warren K. Moorehead. Cincinnati, O. 1892. pp. 186-190.

or to appease supernal wrath—all testify to the Indian's faith in immortality and belief that his destiny was controlled by contending, all-powerful good and evil spirits.

The builders of those mounds in Illinois—doubtless of various tribes and probably of different primitive stocks—were in the neolithic stage of culture when they arrived. Their arts were not developed here from crude beginnings, as they had already attained elsewhere superior skill in chipping flint, as well as in shaping and polishing the hardest and most refractory stones into forms of grace and beauty. But notwithstanding their surprising proficiency in the technical, and even esthetic, manipulation of such materials as nature furnished them, the structure of their skeletons found in the oldest mounds—the ape-like prognathism, the flattened tibiae, perforated humerus, retreating forehead and prominent supraorbital ridges—places them low in the scale of humanity, physically and mentally. The problem of their origin remains unsolved. It may be that it never will be satisfactorily explained. But some light may yet be shed upon the dark page of their ethnography and migrations by persistent, systematic and intelligent study of the broad and inviting archæological field our State presents. With some highly creditable exceptions, antiquarian research in Illinois has heretofore been conducted principally by curiosity mongers and mercenary vandals for selfish gain only. It demands and should receive, before it is too late, the earnest attention of active, scholarly workers in the interest of science.